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CENTRAL INTELLIGENCE AGENCY

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1. The Astra Works were founded as a private corporation in 1920 and, after Hungary had ceded Transylvania to Rumania at the close of World War I, operated the Astra Car Factory in Arad. The Romlok-Works, which had been established under Rumanian control in Brasov ("Romloc" meaning Rumanian locomotive works is a misleading name, as only railroad cars were built there), were first affiliated with the Astra Works, but later were entirely taken over by the Astra Corporation. The Astra firm also took over the Unio car factory in Satu Mare in the early 1930's, and, at the same time, erected an entirely new plant in Orastie in Transylvania. Thus Astra (which, until 1940 was called the Astra First Rumanian Car and Engine Factory, Inc., and afterwards renamed the Astra Rumanian Car, Engine, Ordnance and Ammunition Works, Inc.,) included four plants, to wit:
 - a. Astra Arad;
 - b. Astra Brasov;
 - c. Unio Satu Mare. A part of this plant was moved to Arad in the late 1930's. The remaining plant in Satu Mare was given to Hungary under the provisions of the Second Vienna Award and was returned to Rumania in 1945. Since that date no information on this plant has been available.
 - d. The Astra Orastie, which plant works at full capacity, producing passenger cars, freight cars, tank cars, cars for industrial purposes and street cars, and in addition, manufactures bridge sections and metal structures. The latter products are a specialty of the Astra Works in Brasov. The factories in Orastie also produces Ordnance and ammunition.
2. The corporation had a stock capital of 420 million lei after 1931, of which, from 1937, about 90 percent was held by the Resita Iron Works and Domain Corporation and the Malaxa Trust. The Malaxa Trust belonged to the State from 1940; as to the Resita Works, the State owned shares in the company and had the right of control and intervention. In 1941, the Astra Corporation increased its capital to as much as 900 million lei by issuing new shares which were entirely absorbed by the State. Thus, after about 1941, the Astra Works could fairly be said to have become a State-owned plant though the legal form of a private company was maintained.

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The Astra Corporation was nationalized in June, 1948. The common administration of the plants was split up, and the individual plants became independent and were renamed. Astra-Arad is now called Flammura Rosie (Red Banner) Works; Astra Brasov is now called Steagul Rosu (Red Flag) Works; the new names of Astra Orastie and Astra Satu Mare are unknown.

3. Both the manager and deputies of the Astra Works in Brasov have been changed several times since August 1948. In late 1948 the manager and chief engineer was Engineer Victor Gavut and the assistant manager Jon Ghibut. The organization of the Works management comprises the following sections:
 - a. A technical service, headed by a managing engineer with two assistant engineers. This department comprises a number of sections, drawing section, calculating section, et cetera. The technical service has a total number of from 80 to 90 permanent employees. Its office rooms are in the second story of the management buildings.
 - b. Record Office: Consists of a chief, Engineer Zamfir Conescu, plus 20 to 30 other permanent employees, among whom are four draftsmen and six typists.
4. The Soviets are represented in the plant by a permanent commission, composed as follows:
 - a. One Soviet engineer, with the rank of lieutenant colonel.
 - b. One Soviet engineer with the rank of captain.
 - c. One Soviet civil foreman.
 - d. One Soviet military foreman.

This commission has its office in the management building and is charged with the permanent control of the whole plant. Apart from this permanent commission, an acceptance commission of from 10 to 12 military and civilian members visits the plant at the beginning of each month for the purpose of taking over that portion of production which is deliverable to the Soviet Union.

5. In 1948, the Astra Works had a labor force of approximately 5,000 persons of which 4,500 were workmen and 500 were permanent and temporary clerical personnel. Up to 1945, people of the Hungarian ethnic group were not employed for security reasons. Since that time a large number of Hungarians, especially workmen, have been employed as a result of the privileged position granted to workmen of the Hungarian ethnic group under the present Communist regime in Rumania, although 80 percent of the total number of workmen still are Rumanian nationals. Workmen or employees of German descent are few. Approximately 10 percent of the total number of workers, both manual and clerical, are women. Juveniles are engaged as workmen after the completion of their sixteenth year. Juveniles over 16 years of age are engaged as apprentices; there are approximately 50 to 60 of them in the plant. At present the age of the majority of the workmen ranges from 25 to 45 years. Permanent employees, non-permanent employees, and workers must be members of the cooperative society. After 1945 numerous dismissals were effected for political reasons. The last large-scale purge took place in the winter of 1947-1948, when over 1,000 workmen were dismissed. Dismissals of individual workers who were deemed politically unreliable continued, but not mass dismissals.

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6. The Astra Works are located at the southeasterly edge of the town of Brasov, on the south edge of the table-land of Burgenland, at the foot of the wooded Mount Ragadau. The plant lies southwest of the concrete state highway No. 1 leading from Brasov to Bucharest and the standard gauge local railroad Brasov-Darste-Satulung. It is separated from the town of Brasov by Dealul Melcilor (Mount Snail). In this area, a number of factories are to be found: in the direction of Brasov toward the southeast are a cement factory, the Miess leather works, the Farola rolled and drawn metals factory, the Metrom metallurgical factory, and finally the Astra Works, the largest of all. About one-third of a mile farther on in the same direction is the village of Noa. This area, formerly the Poiana Ragadauli (Ragadauli Meadow), is crossed by the Timis canal, which is fed by the small Timis River, provides the industrial plants with water.
7. The Astra Works can easily be distinguished from the air as it is both the farthest and largest industrial complex southeast of Brasov and situated on the road to Darste. The most vulnerable point of the plant is the hydraulic power station which is fed by the Timis River. In case of failure of the plant the major part of the factory would be forced to cease operations.
8. From the Brasov-Bucharest state highway an approach road branches off at right angles and, at a distance of a quarter of a mile, crosses the line of the local railroad Brasov-Darste, where it follows the northwest edge of the plant. This approach road also leads to the Metrom plant. From the Darste railroad station there is a spur track leading from the main line into the foundry, the car building shop, and the motor rail car shop. The railroad station at Darste is situated on the main line from Brasov to Bucharest, about three and three-quarters miles to the east of the Astra plant. The local Brasov-Darste-Satulung railroad, which passes along the eastern edge of the plant, has two stations near the plant, to wit, one at Monterus at the crossing of the approach road to the local railroad, and the other station at Astra, a little farther south, where the dead end plant tracks are to be found. The plant is surrounded by a rectangular fence approximately 2,300 feet by 1,150 feet.
9. The whole plant is relatively new and modern having been constructed in 1937. The machinery was installed the same year. All damage caused by raids of the United States Air Force was repaired by 1947. In 1947 and 1948, the construction of two other smokestacks was started in the works as well as a third for another foundry. In 1947, the construction of a workshop of considerable dimensions was also started; this shop was intended for the nickel-plating section. By August, 1948, however, the required machines had not been installed and the shop was used for repairing motor vehicles.
10. The legend for the accompanying sketch (Annex 1) is as follows:
 - 1) Porter's house and guard house for plant's fire brigade, a concrete building, 33 feet by 16 feet, with three rooms.
 - 2) Administration (Management) building, 200 feet by 100 feet, a one story concrete building, ground-floor and two fitted-out basements. In the middle of the building is a tower-like, square superstructure about 66 feet by 66 feet, containing three or four additional stories. In the first basement is the record room (office and files room) and the tracing office. In the second basement are store rooms and the entrance to an underground corridor, 6½ feet by 10 feet, leading to the south into the woods and serving as an exit for the personnel of this building in case of air attacks. On the ground floor are the offices of the management and the engineers. On the second story are the offices of the technical service including the drafting offices. On the third, fourth and fifth floors are other offices of the technical service, drafting offices, the constructional section, et cetera.

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- 3) The motor rail car shop, a concrete building, 200 feet by 100 feet, which contains only a basement and a ground floor. For the time being it accommodates bathing facilities for workmen, a paint shop, the motor rail car building shop with an office for the chief foremen, and a fuel storage depot. In one part of this depot, which is on the ground floor, are fire extinguishing apparatus. Below, in the basement, is the depot proper wherein are stored Diesel oils and lubricants in barrels for the requirements of the plant and the motor vehicles.

Below the motor rail car shop is a garage, with a capacity of 20 passenger cars, and the motor vehicles repair shop. In the basement, below the paint shop, are the installations for air-heating the various workshops. In the basement, below the bathing arrangements, are the boilers and water containers for the bathing installations and the hot-water central heating plant for the office buildings. At the south corner of the building is an open air tank depot, where there are stored barrels containing gasoline and Diesel oil.

- 4) Storage room for bicycles and motorcycles of employees and workmen, a concrete building, 33 feet by 33 feet.
- 5) Porter's house and factory fire-brigade quarters, a concrete building 17 feet by 17 feet.
- 6) The Oituz Workshop, a concrete building level with the ground, 230 feet by 130 feet. This building is subdivided as follows:
- (a) Hall of the engine-repair section (section 720) including the section office;
 - (b) Machine-tools section and the office belonging to it. During the war, this section produced ammunition for guns (?) and mortars.
- 7) Canteen building. The building is L-shaped, the ground floor being 50 feet by 150 feet, and the floor of the second story is 50 feet by 33 feet. On the ground floor is a provisions store, the kitchen, the dining hall and a cinema hall. Between the two halls are sliding doors. On the second story are the canteen administration and another provisions store.
- 8) The home of the principal of the High Technical School of the Astra Works. The size of the building is about 40 feet by 46 feet.
- 9) Porter's building.
- 10) Boarding-house for the pupils of the lower classes of the Technical High School of the Astra Works. A new building, level with the ground, and 33 feet by 66 feet adjoin it.
- 11) Boarding house for the other pupils with dormitories and study and dining halls. These are comparatively old buildings, two stories high, 33 feet by 100 feet.
- 12) A number of wooden huts used as storage buildings for the boarding house.
- 13) The kindergarten, a concrete building, 50 feet by 66 feet.

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- 14) A clinical hospital, L-shaped, one story high. Linear dimensions: 115 feet by 66 feet by 33 feet.

The buildings mentioned under items 13 and 14 are separated from the other parts of the plant by a wire fence. The entrance to these buildings is through gate No. 5, where there is a porter, and by another gate which is also situated on the approach road; it is the only one which has no number and is not guarded.

- 15) Small porter's house.
- 16) Administration building, concrete building, 100 feet by 50 feet. In the northwest half is the pay office with a steel safe and a counter room for payments. Entrance is only from the plant area. In the southeast half of the building, through which passes the thoroughfare to No. 1 gate, are the personnel office of the works and the offices of the Trade Union.
- 17) Car building shop, a concrete building with iron girders, 260 feet by 135 feet. During the war guns were assembled in this workshop.
- In the middle of the northeast part of the shop and above it are two floors containing the offices of the nickel-plating section, the drafting office et cetera. In the northern part of the workshop is a partitioned tool store, and in the opposite corner repair shops for tools of the boiler smiths, the riveters and engine fitters. The eastern part of the hall is occupied by a large rotary press. Three railroad tracks run lengthwise through the shop on which the cars are assembled.
- 18) Dormitories for porters and firemen. It also contains the storage room for the fire extinguishing apparatus. It is a building which is connected to the car building shop, and is 33 feet by 26 feet.
- 19) The cylinder boring section and tools store building, 33 feet by 26 feet. On the upper floor of this building are the class rooms of the Technical High School of the Astra Works.
- 20) Storage shed for material of the Marasesti workshop, with parts and accessories for car building, 26 feet by 33 feet.
- 21) The Marasesti workshop is a large shop which produces railroad car components. In the interior of the bay, in the northwest part, are the offices of the shop inspectors, while in the southeast part are the washrooms and the cloak rooms for the workmen and the offices of the foremen.
- 22) A concrete building under construction, 33 feet by 100 feet.
- 23) An inclined plane, about 330 feet long, situated between the car shop and the motor rail car shop, which serves for rolling down the finished cars and motor rail cars to the sidings.
- 24) The forge, a large concrete bay with iron girders, 130 feet by 130 feet. There is also a small repair shop in this bay. The forge has two smokestacks located to the east of it.
- 25) The butcher's shop, a wooden building, 20 feet by 20 feet.
- 26) The foundry, the dimensions of which are 100 feet by 66 feet. The building was seriously damaged by air attacks in 1944 but was repaired and enlarged after 28 August 1944. In the summer of 1948, the foundry

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worked at full capacity. Before that time, castings were made in the Resita Works. There are three cupola furnaces in the foundry, which has two smokestacks located east of it.

- 27) The joinery, 100 feet by 50 feet. It is located southeast of the Oltuz workshop and is closely connected with it.
- 28) The main storage building, 100 feet by 50 feet, which contains stores of material, tools, component parts for engines and machines, et cetera. The first aid station is also in this building.
- 29) The electric power station, an L-shaped building of concrete, 80 feet by 33 feet. In the northeast part of the building is the generator and switchboard room; in the western part the offices, and in the southern part (basements 1 and 2) the turbines. The turbines are driven by the water of the Timis canal. The outlet is covered and continues underground as long as it runs through the area of the Astra Works.
- 30) Waterbasin with filter, fed by the Timis canal, surface 80 feet by 50 feet, depth 13 feet.
- 31) Electrical grain grinding mill, a concrete building, 50 feet by 33 feet.
- 32) Grain and flour warehouse, 66 feet by 33 feet.
- 33) Filling station for the motor vehicles of the plant, with an underground cistern as storage tank.
- 34) Pits for removing axles and wheels.
- 35) A concrete building, 32 feet by 16 feet. During the war it was a loading station for experimental shells but at present it is shut down.
- 36) Artillery range for anti-tank guns, built in the shape of a long deep ditch. Direction of firing is from the east to the west. During the war target practice with anti-tank guns, manufactured by the plant, was held there.
- 37) Protection wall of the artillery range; a strong concrete structure with turrets for the safety of personnel.

The buildings mentioned under items 35, 36 and 37 are surrounded by a single-entrance concrete wall, six and one-half feet high. This target range is in large part surrounded by a forest.

- 38) A new foundry with two smokestacks, under construction.
- 39) Orchard.
- 40) Scrap yard
- 41) Gate No. 1.
- 42)
- 43) Hunterus railroad station.
- 44) Gate No. 3.
- 45) Gate No. 4.
- 46) Gate No. 5
- 47) Gate No. 7

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48) Astra railroad station.

49) Raw material for foundry.

11. The major part of the machinery, the tools, and other technical equipment is of German origin having been made by the German firm of Wotan and Zimmerman A.G., which has factories in Dusseldorf and Glachau. In the various sections the mechanical outfit in detail is as follows:

a. The motor rail car shop:

Two large electrical boring machines.
One large electrical shearing machine.
Various electrical and air hand boring machines, small lathes, et cetera.

b. The Cituz workshop: (item 16 of Annex 2)

1) Engine repair shop:

Two small milling machines.
Two small metal planes.
Various small boring and other types of machines.

2) Engine tools shop: Part of this machinery is in storage and not in operation. The following is in operation:

Fifty to 60 lathes for turning shells.
Lathes for gun barrels (number unknown).
Small punching machines.
A press for 120 mm. projectiles.

c. The car building shop (item 17 of Annex 2)

A rolling mill, the largest in Southern Europe, built by the Astra works according to a German blueprint in 1946. On this mill it is possible to make the tank of a 40-ton tank car in a single operation.

Two electric cranes with cabins. The carrying wires are 98 inches thick with a lifting power of three tons. Manufactured by Vulcan in Bucharest.

Heavy portable German-made pneumatic hammers.

One built-in large shearing machine, with punch, 13 feet high with a base of 9.8 feet, capable of cutting sheets up to .47 inches thick.

Seven large automatic boring machines for boring holes up to .709 inches in diameter.

A nickel-plating device equipped with a nickeling furnace, nickel bath, et cetera.

Small tools, among which are 13 automatic pneumatic pistols for riveting; welding instruments; various hammers; electrical gear for electric and autogenous welding.

d. Instruction workshop of the Technical High School (item 19, annex 2), is equipped with the same machines and tools as the Marasesti workshop but they are fewer in number.

e. The Marasesti workshop has the following equipment:

Approximately 20 electric lathes, each with its own motor, German-make, built in 1937-1938.

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Seven metal planes, two small and five large ones, the latter 16 feet long; each with two cutters, German-make (Wotan).

Ten gear cutters, German-make.

Approximately 20 horizontal, vertical and universal milling machines, German-make.

Eight vertical metal planes.

Six boring machines.

Four universal precision cylinder boring machines.

Five large German adjusting boring machines.

Four lathes, used for making car axles and wheels.

Two cranes, with cabins, manufactured by Vulcan in Bucharest.

f. The Forge:

Two large steam hammers (about 3 tons)

Two electric hammers.

Six casting furnaces fired by crude oil. two are large, casting ingots up to 15 tons, and four are small.

One large cylindrical smithy.

Three to four smaller smithies.

One large shearing machine.

g. The Foundry:

One large cupola.

Two Siemens-Martin furnaces.

Two or three smaller furnaces for soft metals.

- h. The Joinery is equipped with modern electrical machines of German make built in 1937-1938. The furnaces of the forge and of the foundry are oil-fired and are fed by means of subterranean pipes. The workshops are heated by hot air, and the offices have central heating. In the summer of 1948 the Astra Works owned the following motor vehicles:

Twelve trucks, of which four were Soviet Zis and seven were heavy German trucks. Five passenger cars, at the disposal of the management.

12. Electrical current of 220 volts is supplied by the plant's own hydro-electric power station which is situated in the center of the plant area. This power station not only supplies the whole Astra works with current, but also the workers' colony at Noa. The capacity of the power station and the power consumption of the plant are unknown. There is an emergency turbine. In case of total failure of the power station, current must be obtained from the public power station in Brasov which is not capable of supplying all the power needs of the Astra works.

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13. The waste and scrap of the plant are made use of in the works' foundry. Up to 1948, the foundry was so small that the total amount of scrap could not be melted in the works' own foundry, but had to be handled by the Resita works. At present, all scrap is used in the plant's own foundry. In order to make use of the increased amount of scrap, additional foundries are under construction.
14. Waste in production is about four percent; damage due to waste is deducted from the wages of the workmen. The factory was, as of the summer of 1948, engaged in the serial production of the following:
 - a. American type 40-ton four axled railroad tank cars. Monthly production during the period August-September 1948, was 63 cars per month. This is the main production line at present.
 - b. Pistons of different sizes for IC-engines for trucks, passenger cars, tractors and tanks.
 - c. Gear wheels of different sizes for motor vehicles.
 - d. Closed freight cars, with two axles; carrying capacity 10 tons.The factory was also engaged in repairing car engines, but because of a shortage of materials was able to accomplish only one general overhaul per month.
15. By far the greatest majority of the production, all the tank cars and freight cars and the major part of the remaining production, is delivered to the Soviet Union on reparations account. The orders are placed with Astra by the Rumanian Ministry of Industry in accordance with instructions received from Moscow. After the completion of a series of from seven to fourteen cars, the latter undergo trial runs on the main line of the Brasov-Darste state railroad line. These trial runs are attended by members of the Soviet Control Commission. The finished products are stored in the factory for a short time only, since as a rule, they are quickly dispatched. In the main storage building are kept the minor parts such as gear wheels (which are packed in boxes 24 inches by 24 inches by 24 inches), and pistons (packed in boxes 39 inches by 24 inches by 24 inches). The major part of this production, too, goes to the Soviet Union. The cars which are destined for the Soviet Union are dispatched there by their own means; they go as far as the Soviet frontier on the standard gauge rails of the Rumanian State railroad and carry with them the axles and wheels for the Soviet broad gauge tracks. At the frontier, their axles are exchanged for wide gauge axles and the standard gauge axles and wheels are collected in carloads and sent back to the Astra works.
16. Not a single machine of the Astra works was dismantled by the Soviets. The inventory was left complete. Reportedly, the plant can be converted from its present production to war production within about a week. There are on hand not only the machines and technical installations needed for this purpose but also a nucleus of war trained workmen who would be able to train other workmen at any time very quickly. In 1946, the Astra works in Brasov also produced for the Soviet Union the same large rolling trains which are used at Astra.
17. The working hours in the plant are from 7 a.m. to 3 p.m. with a morning break from 11 to 11:20 a.m. There is no night work. Only the power station functions at night. Overtime work is done only in exceptional cases. The production quotas were fixed by the Communist Party of Rumania as early as 1946-1947. For each work piece the maximum allowable work time is determined and published in lists which are put up in the workshops. A special checking service supervises the filling of the quotas. Non-filling of the quota entails a fine which is deducted from wages.

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18. Two porters are permanently on duty at each of the seven entrance gates; they act at the same time as fire guards. One attends the gates, the other the adjacent space of the plant area. They are relieved every eight hours. In addition, each section of the plant has a night watchman who must patrol a specific area during the night. The plant watchmen also guard the management and administration buildings. The record office in the basement has been particularly well guarded, especially after the plans of an unspecified Vickers cannon was stolen by one of the employees.
19. On entering the plant, the workmen must produce their identification cards on which are placed photographs. These passes are issued by the personnel section of the plant management. The pass checking at the gates was particularly severe up until 7 a.m.. Visitors not belonging to the plant must get a visitor's pass from the porter and must give up an identification card or other document at the gate, which is returned to them when they leave the plant. The visitor's pass is picked up when they leave. In addition they must state whom they wish to see and for what purpose.
20. The plant fire brigade consists of regular firemen and the porters as well as a great part of the workmen of the plant. The firemen are both well-trained and well-equipped, each section having its own hydrants and motorized fire engines. There is a first aid station in the center of the plant where two ambulance men are permanently on duty. The telephone exchange is located in the administration building, near Gate No. 1. There are telephone connections to all parts of the plant.
21. The workmen who are members of the Rumanian Communist Worker's Party get lodgings from the Party in the town of Brasov. These lodgings have been confiscated from the German ethnic group and Rumanian reactionaries. Most of the elderly workmen, however, live in the workman's colony in Noa, which has its own elementary school and an Orthodox church. The plant has a canteen of its own which is open to all workers belonging to it. Payments are settled each month by deductions from wages. After one year's work, a 15-day leave with pay is granted to workers. Sick workers are sent to the General Hospital. The plant has a clinical hospital of its own where workers can get free treatment, but since the workers must pay for its upkeep, they are required to contribute 400 lei monthly from their wages. This clinical hospital has four doctors: the medical chief, Albert Segal, a venereal disease specialist; Mme. Ungureanu, a specialist in internal diseases, and two other doctors, one of whom is an oculist. Sick leave is granted to workmen if recommended by the hospital.
22. The workers of the plant fall into the following wage groups:
 - a. Groups 1 and 2 : Graduate engineers
 - b. Groups 3 and 4 : Other engineers
 - c. Group 5 : Chief foremen
 - d. Groups 6,7 and 8 : Specialists and foremen
 - e. Groups 9 and 10 : Workmen
 - f. Groups 11 and 12 : Servants, porters, and unskilled hands
23. In 1940, the Rumanian Ministry of Education erected a technical high school within the Astra works; it has eight classes as an industrial lyceum, with which has been incorporated a four-class school for apprentices. Pupils leaving the elementary school with final certificate are admitted to the technical high school. Aside from the theoretical instruction, the curriculum of which is laid down by the Ministry of Education, the pupils are employed in practical work in the plant, alternating in the various sections; the pupils of the lower classes three hours per day, those of the four upper classes four hours per day. There are approximately 400 pupils

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in the school, almost exclusively sons of workmen who are employed by the plant. They must remain in the plant as specialists for four years after graduation.

24. Aside from previously mentioned production, the following articles were being manufactured in September 1948:
- a. Special gear for oil drilling operations.
 - b. Ball bearings
 - c. Boring machines with 130 mm cutter heads,
 - d. Lathes, swing height 450 mm; frame length 4.5 mm.
 - e. Boring and milling machines, with a diameter depth of 1.5 mm and a maximum boring diameter of 50 mm.

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